#### Information for Contributors

Authors are encouraged to prepare articles electronically with the AMS-TEX software package in the AMS pre-print style and to provide the article in this electronic form for typesetting. While this procedure may not reduce the interval between submission and publication of an article, generally much more accurate copy will be returned for proofreading. Production time for manuscripts prepared with other systems, even TEX itself without AMS-TEX, currently prevents cost-effective use of the existing electronic form. Before sending an AMS-TEX manuscript for typesetting, contact the AMS Composition department for details.

Manuscripts prepared by some means other than  $A_{MS}$ -TEX should be doubled-spaced and produced in the format used by the journal. For journal abbreviations, see the latest *Mathematical Reviews* volume index. An author should submit the original and two copies of the manuscript and retain one copy. The author may suggest an appropriate editor for his paper. It is recommended that the author acquaint himself with the pertinent material contained in "A Manual for Authors of Mathematical Papers," which is available from the American Mathematical Society. All contributions intended for publication and all books for review should be addressed to Walter Gautschi, Chairman, Editorial Committee, Mathematics of Computation, Department of Computer Sciences, Purdue University, West Lafayette, Indiana 47907. The date received, which is published with the final version of an accepted paper, is the date received in the office of the Chairman of the Editorial Committee, and it is the responsibility of the author to submit manuscripts directly to this office.

Each article submitted for publication must be accompanied by a brief and reasonably selfcontained abstract, and by 1980 *Mathematics Subject Classification* (1985 *Revision*) numbers. If a list of key words and phrases is included, it will be printed as a footnote on the first page. A list of the classification numbers may be found in the 1984 Subject Index to Mathematical Reviews. Authors are also encouraged to supply electronic addresses when available. These will be printed after the postal address at the end of each article.

#### **Copying and Reprinting**

Individual readers of this publication, and nonprofit libraries acting for them, are permitted to make fair use of the material, such as to copy an article for use in teaching or research. Permission is granted to quote brief passages from this publication in reviews provided the customary acknowledgment of the source is given.

Republication, systematic copying, or multiple reproduction of any material in this publication (including abstracts) is permitted only under license from the American Mathematical Society. Requests for such permission should be addessed to the Executive Director, American Mathematical Society, P.O. Box 6248, Providence, Rhode Island 02940-6248.

The appearance of the code on the first page of an article in this journal indicates the copyright owner's consent for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law, provided that the fee of \$1.00 plus \$.25 per page for each copy be paid directly to Copyright Clearance Center, Inc., 27 Congress Street, Salem, Massachusetts 01970. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotion purposes, for creating new collective works, or for resale.

## (Continued from back cover)

J. Lehner, The local Hurwitz constant and Diophantine approximation on	
Hecke groups	765
S. Gurak, Pseudoprimes for higher-order linear recurrence sequences	783
Jeffrey M. Kubina and Marvin C. Wunderlich, Extending Waring's conjec-	
ture to 471,600,000	815
Kevin T. Phelps, Cyclic large sets of Steiner triple systems of order 15	821
C. Koukouvinos, S. Kounias, and K. Sotirakoglou, On base and Turyn se-	
quences	825
Jürgen Spieß, Some identities involving harmonic numbers	839
Reviews and Descriptions of Tables and Books	865
Kahaner, Moler, and Nash 23, Samarskii and Nikolaev 24, Strikwerda	
25, Cruse 26, Rogers and Ames 27, Duff, Erisman, and Reid 28, Farin	
29, Iri and Tanabe, Editors 30, Kaltofen and Watt, Editors 31, Pohst,	
Editor 32	
Indexes to Volumes 54 and 55	879
Supplement to "Cyclic large sets of Steiner triple systems of order 15" by	
Kevin T. Phelps	<b>S</b> 1

No microfiche supplement in this issue

# MATHEMATICS OF COMPUTATION TABLE OF CONTENTS

## October 1990

Susanne C. Brenner, A nonconforming multigrid method for the stationary	
Stokes equations	411
Shangyou Zhang, Optimal-order nonnested multigrid methods for solving finite element equations II: On non-quasi-uniform meshes	439
Kendall E. Atkinson and Graeme Chandler, Boundary integral equation	
methods for solving Laplace's equation with nonlinear boundary con-	
ditions: The smooth boundary case	451
Ohannes Karakashian and William McKinney. On optimal high-order in	
time approximations for the Korteweg-de Vries equation	473
G. Fairweather, J. M. Sanz-Serna, and J. Christie. A stabilized Galerkin	
method for a third-order evolutionary problem	497
Alexander Evdeland Joel Snruck and Bruce Turkington Multiconstrained	
variational problems of nonlinear eigenvalue type: New formulations	
and algorithms	509
V Maday Analysis of spectral projectors in one-dimensional domains	537
<b>P</b> A <b>Panaut</b> Two step <b>Runge-Kutta</b> methods and hyperbolic partial dif-	551
ferential equations	563
Shoufu Li and Baagan Duan Nonlinear stability of multisten multideriva	505
tive methods	581
Denote Spieler and Marco Vianelle. A superior method for evaluating	501
zeros of solutions of second order linear differential equations	501
Zeros of solutions of second-order intear differential equations	391
Hongyuan Zha and Per Christian Hansen, Regularization and the general	612
	013
<b>Ronald A. Devore and Xiang Ming Yu,</b> Degree of adaptive approximation $\mathbf{P}$ . T. Farouki and C. A. Noff. On the numerical condition of Bernstein	625
Rézier subdivision processes	637
Even a Debarator on Sticitics polynomials and Gauss Kronrod guadra	057
franz renerstorier, On Stichtjes polynolinais and Gauss-Kiolilou quadra-	640
Demond Bishahi A Sing Hunter and detune mile for Couchy minimal	049
Bernard Blalecki, A Sinc-Hunter quadrature rule for Cauchy principal	"
	003
Franz-J. Delvos, Boolean methods for double integration	683
Kevin M. Dempsey, Dajin Liu, and John P. Dempsey, Plana's summation	<i>.</i>
formula for $\sum_{m=1,3,\dots}^{\infty} m^{-2} \sin(m\alpha), m^{-3} \cos(m\alpha), m^{-2} A^m, m^{-3} A^m$ .	693
László Babai and Lajos Rónyai, Computing irreducible representations of	
finite groups	705
Joseph H. Silverman, The difference between the Weil height and the	
canonical height on elliptic curves	723
J. Pila, Frobenius maps of Abelian varieties and finding roots of unity in	
finite fields	745